

Maryland Evaluates Its Physician Needs

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REPORTS are current of communities which are without physicians, of hospitals which cannot obtain interns, and of dependence of communities and hospitals on foreign-trained medical graduates for medical service. At a time when the public is more health conscious and increasingly able to purchase medical care, these reports cause anxiety in the public as well as concern in the medical profession and in government circles. The apparent shortages come at a time when the population is numerically exploding, when longevity creates new and greater problems in medical care of the aged, when medical research offers promise of enabling physicians to treat effectively many more medical conditions, thus creating a greater demand for medical service.

National studies have concluded that unless new medical schools are established and unless present schools enlarge their programs, our nation will face a critical shortage of physicians.

Motivated by this widespread concern and by the conclusions of these national surveys, the Maryland State Planning Commission's Committee on Medical Care initiated a study to determine what Maryland's proper responsibility should be for the education of physicians to meet its 1975 needs.

Methodology

The committee was broadly representative of the community and the medical profession and included the deans from the medical schools of Johns Hopkins University and the University of Maryland. The group was assisted by a staff

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director whose function was to collect data and to prepare background and position papers. These were discussed by small subcommittees and revised before presentation to the committee as a whole. Each subcommittee's report constituted, in effect, a chapter in the committee's final report.

The final report, unanimously adopted, was reviewed by the parent Committee on Medical Care, and in turn by the Maryland State Planning Commission. Upon adoption by the planning commission, the report became a public document (1).

Other States may find in the report and recommendations suggestions for their own planning.

National Perspective Required

At the outset it became clear that it would be pointless for Maryland to try to look out for itself, and only itself. The conclusion that a national perspective is necessary was forced by five factors.

First, about one-half of the medical schools in the nation are private schools, with no commitments to meet local or State needs for physicians; their programs are generally not hampered by State lines and residency requirements. Their graduates meet national as well as State needs. But essentially these private schools, as national schools, force us to consider the national problem of supply, for no State can really calculate its needs without taking into account the number of physicians the private schools can and will turn out.

Second, schools with a high percentage of State residents do not achieve the objective of keeping them in the State. One study of the University of Maryland medical school grad-

uates reveals that only 36 percent remained in the State despite the fact that 75 or 80 percent of those graduated were originally Maryland residents.

Third, some States cannot support a medical school clinically or economically. The former is especially significant. To educate a physician of quality requires extensive clinical resources—a wide variety of patients of all ages and with all types of diseases. Some areas simply cannot provide the wide range of cases necessary for a good medical school. Who will train the physicians these areas need? This is a national obligation of the schools in other States.

Fourth, the armed forces require a certain number of physicians, as does the Veterans Administration and the Department of Health, Education, and Welfare. Federal needs must be met by the existing schools. In a sense this might be viewed as a return to the Federal Government for its investment through research and construction grants.

Fifth, few States can calculate the full effect of population shifts. Medical schools, however, cannot expand and contract with population movements. The costly investment in physical plants requires a stable approach to the use of medical school facilities.

These factors thus make it essential for each State to relate itself to the national need, and not try to focus only upon the State's need. They suggest that all medical schools, even those operated by State governments, are national resources. If the nation's need for physicians is met, then, by proper distribution, each State's needs can be met.

Intern and Resident Shortages

Early in the study the committee grappled with the well-publicized shortage of interns and residents. Despite some popular opinion to the contrary it was concluded that medical schools do not, and should not, exist to supply hospitals with interns and residents.

In a sharply worded statement the committee pointed out that the internship and residency are properly and primarily an educational experience. The provision of medical service by the house staff is an intimate and undissociable part of that educational experience, but cannot

be justified except as it relates to the basic purpose of education.

It was suggested, in effect, that there are too many educational programs, that some are in hospitals which simply do not have the clinical resources to make the internship and residency desirable to new medical graduates, and that in some the teachers are unable to devote the requisite amount of time to teaching due to the press of other duties. It was intimated that many of the internships and residencies are maintained in hopes of attracting young physicians to provide medical service coverage for the hospital. The committee recommended that this hospital need be met by the full-time or part-time employment of physicians, or by distributing the duties among the attending medical staff as is done in hospitals that do not have interns, residents, or paid staff.

Foreign Physician Immigration

The report points out that the United States is still being settled for some of the very reasons which brought people to these shores in the 17th, 18th, and 19th centuries. Among today's immigrants are a large number of trained physicians. The United States has come to rely upon these physicians to maintain its national standard of 133 physicians per 100,000 population. In 1960, for example, for every 5.7 licensed physicians, one was a foreign medical graduate. In 1959, of the foreign graduates licensed, about 20 percent were American citizens who went abroad to study.

Whether or not this rate of physician immigration will continue is a moot point. Those who feel that it will continue point to our favorable land mass, potential for population growth, economy, political system, and standard of living. On the other hand, this assumes three things which are open to serious question:

1. That the nations abroad will continue to finance their medical schools to train doctors for the more affluent nations.
2. That the political, economic, and cultural leadership of the United States or the nation in question will fail to make the homeland sufficiently attractive to its medical graduates to discourage emigration.
3. That foreign governments will permit the

continued emigration of physicians who are sorely needed by their own people.

A study of the origins of foreign medical graduates is revealing. A high percentage come from underdeveloped countries or countries which have experienced recent political or economic upheaval. Underdeveloped nations can ill afford loss of needed medical manpower, and it has been reported that some of these nations are disturbed over the situation and may well take steps to curb the outflow of physicians. Many of the foreign physicians are, of course, political refugees. One can anticipate that this immigration will taper off. The majority of those who could not reconcile themselves to the new regimes of the late forties and early fifties have in all probability left. Some are now licensed to practice; some will be licensed as they complete internships and residencies; some, such as East Germans, may still be waiting to get into the United States.

The prospects for continued high immigration of physicians are not encouraging. The Maryland study committee thought it would be the better part of wisdom not to rely upon foreign medical graduates to maintain the national standard of physician supply, but rather to augment our training capacity now so that we may be self-reliant. The committee did not recommend, however, a curb on immigration of physicians. It was suggested, rather, that any foreign physician intake above the domestic turnout be viewed as a plus factor which could be used advantageously.

Current and Future Needs for Physicians

For national planning purposes the standard for physician needs has been set at 133 non-Federal physicians per 100,000 population. This is considered by some to be a minimal standard. At any rate it is about what we now have by way of numbers of doctors. It is generally recognized as a crude index, of value only because we have no better index for the nation at this time.

The Maryland study rejected the physician-population ratio, however, as a valid basis for State planning. The ratio lacks, most of all, the refinement necessary for population groups which are, compared with the massive national

population, relatively small. The health of a people depends upon many factors, such as supply of physicians, population characteristics (age, race, educational level), type of economy (industrial or rural), wealth, tempo of life, and climate. A favorable or unfavorable ratio of physicians by itself seems to have no deciding factor if one judges by mortality rate: Massachusetts, New York, and the District of Columbia have very high physician-population ratios, yet their mortality rates are much higher than the average for the nation; Idaho, North Carolina, and North Dakota have extremely low ratios of physicians to population, and yet their death rates are well below average.

Another factor which affects the soundness of statewide use of physician-population ratios is that many States have population centers adjacent to large cities in other political jurisdictions. For example, both Virginia and Maryland have heavy population concentrations around Washington, D.C. Maryland has a higher than average physician-population ratio, 136 per 100,000 population, seventh among the States; Virginia's ratio, 102, is well below the national average of 133 (2). Both States draw heavily upon the physicians in Washington, a city which has, excluding federally employed physicians, the highest physician-population ratio in the nation, 311 per 100,000. Maryland's favorable ratio is even more comfortable when one considers the likely extent to which many Maryland residents rely on Washington physicians for care. Virginia's ratio is also improved by its proximity to Washington.

The committee felt that Maryland's need for physicians could only be determined by evaluating critical data. The group took note of the State's population characteristics; it examined morbidity and mortality data, with special attention to neonatal and perinatal death rates; it took stock of available services both on a public and private basis; it evaluated the programs developed by the State for the indigent and medically indigent. The conclusion was that the state of health of Maryland residents is good, and that there are enough physicians in the State. Reported shortages of physicians in some communities and in some specialties were felt to result from distribution problems rather than from any real shortage of physicians.

There seemed to be some serious health problems among the Negro population, but it was felt that the causes stemmed more from the lack of adequate general hospital facilities for Negro patients, especially obstetrical cases, lack of public knowledge as to services available, and the general economic condition of all persons in the lower socioeconomic group which does not permit adequate diet or housing than from a shortage of physicians.

The committee tussled at length with the question of projecting future needs for physicians from our present affluent base. Having rejected the physician-population ratio as inadequate for State planning, the committee examined several possible projections. It concluded that the most practicable approach for Maryland would be to relate the current number of its medical school graduates to the national population. Assuming that the two schools are presently doing their share toward meeting national and, concomitantly, State needs, an assumption supported by comparing the annual number of graduates from Maryland's two medical schools with the State's yearly intake from all areas of physicians who are licensed for the first time, this ratio could be applied to the projected national population figure for any year desired.

The Maryland study calculated thus: There were 151 medical graduates from the University of Maryland and the Johns Hopkins University in 1959, and the national population was 174,409,000. (The year 1959 was used since complete data were available regarding number of doctors, licensures, school enrollment, attrition, and so on.) This provided a ratio of 0.866 doctors graduated in Maryland per 1,000,000 national population in 1959.

Applying the ratio of 0.866 to the projected 1975 population of 235,246,000, Maryland would require 204 graduates in 1975. Allowing for attrition (due to academic failures, personal factors, diversion to other doctoral fields, and so on), the committee concluded that Maryland medical schools should plan to enroll by 1971, for 1975 graduation, 240 medical students. This is 50 more than are currently matriculating in the first-year class, 22 more than are presently planned (the University of Maryland will admit 28 additional students next year).

This projection assumes, however, the continued high rate of immigration of foreign physicians. Since it was concluded that such immigration should not be relied upon, the committee recommended that the 50 additional openings for medical students be increased by 42, to a total of 92. The 42 openings were the calculated Maryland responsibility for replacement of the foreign physicians licensed in 1959 for the first time. (Since Maryland's two medical schools graduated in 1959, 1 physician for every 45.4 of the 6,860 physicians graduated in the United States, it was suggested that Maryland should be responsible for 1/45.4 of the 1,626 foreign graduates. Allowing for attrition, this meant 42 additional first-year openings.)

The 92 students represent a 49 percent increase in medical school training capacity by 1971, nearly the equivalent of a third medical school. On the basis of present data, the committee concluded that this expansion would be reasonable for Maryland to assume to help meet the national need for physicians in 1975.

New and Expanded Facilities

Since 28 of the required 92 openings for first-year medical students were already planned, the question next faced by the committee was that of deciding how to attain the additional 64 openings. It was recognized at the outset that the size of a medical school has some practical limitations. There is a point beyond which it may not be desirable to expand and a point beyond which, administratively, one might as well establish a new medical school. It was noted also that the Johns Hopkins school recently raised the number of openings in its entering class from 76 to 90. The University of Maryland will increase its openings for first-year medical students from 100 to 128 in September 1962. Both medical schools have heavy postdoctoral training commitments.

It was the considered judgment of the committee that the two medical schools, between them, should plan to further enlarge their programs by 22 students. It was felt that this could be accomplished with minimal difficulty. In addition, the committee recommended that a school of basic medical sciences be established

on one of the college campuses in Maryland with an enrollment of at least 42 students per class. Upon completion of the 2-year curriculum the students could transfer to the third-year class in one of the 4-year medical schools. The 4-year schools can readily absorb additional qualified students in their third year classes due to dropouts in the first 2 years and because the third- and fourth-year classes can usually be further enlarged since costly laboratory space is not generally required in these years. The need during the last 2 years of medical school is for clinical material—patients—for teaching purposes, and this material is usually in ample supply in large industrial cities.

Physician Distribution

Shortages of physicians in communities and within specialties were examined by the Maryland committee because some persons argue that such shortages demonstrate the shortage of physicians. As indicated earlier, the committee concluded that such shortages represented distribution problems and not so much the need for more physicians.

Most communities that were seeking physicians were very small and yet fairly close to cities. Many of the towns may have grown accustomed to having their own physician during the time that transportation to larger communities was more difficult than it is now. The committee concluded that, because of the ease of transportation and because of sparse local population, many of these small communities could not support a physician full time either economically or professionally. The committee pointed out that a new physician is usually 30 years old and heavily in debt; he has just completed a rigorous training in highly scientific surroundings. He would be somewhat, and the committee felt justifiably, reluctant to divorce himself from his colleagues and from the facilities and services in general hospitals, from the continuing educational processes so essential to modern medical practice, and from the fast-moving pace to which he had become accustomed during medical school and internship.

The committee recognized that the absence of physicians in rural communities was not peculiar to Maryland or to the United States; it

is a worldwide problem. Several things were suggested to alleviate the situation.

First, the committee suggested that communities should recognize that with modern means of transportation a 30-minute automobile drive to reach a physician is not unreasonable. A full-time physician in every hamlet is a luxury, said the study group, that neither the town nor the nation can afford.

Second, it was suggested that small communities explore the opportunities for part-time physicians, whereby they may hold office hours 1 or 2 days a week. The group noted that this may require a guaranteed income and, on islands, helicopter service.

Third, the committee stated that augmented postgraduate medical education programs under medical school sponsorship in some of the larger communities can make practice in non-metropolitan areas appreciably more attractive.

Rejected as solutions to the problem were all thoughts of restricting medical school admissions to residents of Maryland or of tying strings to scholarships by requiring indentured rural service. The committee noted that the evidence available indicates the futility of both methods.

Shortages within specialties, such as psychiatry and physiatry, were also discussed by the study group. It was concluded that advances in medical science and changes in the mode of practice will constantly cause adjustment within specialties as to the number of specialties needed and available. The likely advent of vaccines for the adenovirus diseases and measles, for example, will have a profound effect upon pediatrics and general practice. Patients with these conditions and with their complications are heavy users of physician services. With vaccines, any current or future shortage of pediatricians and general practitioners will be lessened, thus encouraging new physicians to enter other specialties. Similarly, as some specialties become more efficient, by moving their offices adjacent to the general hospital, for example, the need for more physicians within those specialties will be lessened, and new physicians can be channeled to other specialties. Medical schools, it was noted, have a responsibility to encourage students to enter specialties in which the need for physicians is greatest.

Student Quality and Scholarships

The study committee took note of the high cost of medical education, and of the fact that the medical profession is not attracting as high a percentage of the best students as it has in the past. The committee observed that in other scientific areas the length of training is shorter, scholarships are far more plentiful, prestige is high, and the income potential of the graduates is commensurate with that of physicians.

The solution to this problem, which is of course central to the entire physician supply picture, was suggested as being twofold. First, there is the need to strengthen the biological science curriculum in high schools and colleges so as to interest more students in the health sciences.

Second, there is great need for increased scholarship aid so that students of medicine have opportunities for financial support comparable with those in other fields. It was suggested that the State of Maryland be prepared to underwrite a scholarship program. State funds for medical education, the committee report states, should not be restricted to residents of the State, nor should matriculation in the State be required of its residents who are recipients of State aid. The deans of the two medical schools are called upon to develop jointly a plan for State action.

The committee also noted that qualified Negro students are deterred from entering medical school because internships, residencies, and staff appointments in hospitals are generally unavailable to them. It was recommended that leadership responsibility for correcting this situation rests with a number of persons and organiza-

tions—hospital trustees, the Hospital Council, hospital medical staffs, the State medical society, and the State department of health—each of which must meet that responsibility in the immediate future. It was further recommended that the Maryland State Department of Health call together representatives from each of these groups to discuss the problem collectively, and to issue a joint report as soon as possible on action that is contemplated.

Medical Research

Seeking to provide the State with some guide to the support of medical research, the committee advised that the State should be responsible for providing its institutions with adequate facilities in which to carry out research financed principally by grants. The State, it felt, should supply each of its research facilities with only a small continuing core group of qualified personnel to provide direction and continuity in the development and conduct of research activities. Further augmentation of the core groups for specific projects, the study committee cautioned, should not be a State responsibility except in those areas which have a special and unique relevancy to Maryland.

REFERENCES

- (1) Maryland State Planning Commission, Committee on Medical Care: Medical education and research needs in Maryland. Baltimore, Md., 1962.
- (2) Stewart, W. H., and Pennell, M. Y.: Health manpower source book. 10. Physician's age, type of practice, and location. PHS Publication No. 263, sec. 10. U.S. Government Printing Office, Washington, D.C., 1960, p. 33.

Learning and Relearning

Lord Lister said, "If you are not willing to learn and unlearn all your life through, you should give up medicine and take up a third-rate trade." Learning is difficult enough, unlearning and relearning is not only difficult but is opposed by habit and false pride. It is nevertheless the price to be paid if you wish to be a worthy member of a learned profession.—DAVID WHITTERIDGE, *Lancet*, August 29, 1959, p. 192.